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(54) Title: COMPOSITIONS AND METHODS FOR ENRICHMENT OF NEURAL STEM CELLS USING CERAMIDE
ANALOGS

A



Untreated stem cells

B



S18-treated stem cells

(57) Abstract: The present invention provides compositions and methods for human neural cell production. More particularly, the present invention provides cellular differentiation methods employing amphiphilic lipid compounds, preferably ceramide analogs of the β -hydroxyalkylamine type and optionally employing an essentially serum free MEDII conditioned medium for the generation of human neural cells from pluripotent human cells. The methods alternatively comprise modulating apoptosis by modifying the levels of PAR-4, with or without the presence of amphiphilic lipid compounds and optionally employing MEDII conditioned medium. The methods alternatively encompass modulating apoptosis by modulating the intracellular concentration of endogenous lipid second messengers, such as ceramide.

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